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FISCAL POLICY AND MONETARY UNION: FEDERALISM, FISCAL RESTRICTIONS AND THE NO-BAILOUT RULE

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ABSTRACT

Fiscal Policy and Monetary Union: Federalism, Fiscal Restrictions and the No-Bailout Rule*

Avocates of formal fiscal restraints on the member states of the European Monetary Union often argue that US experience proves that a monetary union needs such constraints to guarantee the stability of the common currency. We show, first, that the origin of formal fiscal restraints on US state governments is unrelated to monetary questions. Second, we show that the same is true for similar constraints in Australia. Third, we show that the incidence of fiscal restraints is strongly correlated with the central government's ownership of the national tax base. The implication for Europe is that fiscal restraints are unnecessary as long as the EU retains a high degree of fiscal decentralization.

JEL Classification: H62, H63, H74, H77, F33
Keywords: monetary union, fiscal restraints, fiscal federalism

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NON-TECHNICAL SUMMARY

A prominent feature of the Maastricht Treaty on European Union are the restrictions it places on national fiscal policies under the 'Excessive Deficits Procedure'. Three justifications have been offered for this procedure. First, it is argued that there is a need for fiscal policy coordination across countries in a monetary union to ensure desirable inflation, growth, and balance of payments outcomes. Second, there are worries that large deficits in some countries will disturb the overall savings-investment balance of the European Union, wreaking havoc with, *inter alia*, the level of real interest rates and the real exchange rate *vis-à-vis* the rest of the world. Third, there is a fear that unfettered national fiscal policies will be a source of inflationary pressures that the European Central Bank (ECB) will find difficult to resist.

The first two arguments find little support in the literature. While there may be a strong case to be made for the international coordination of fiscal policies, deficit and debts limits of the sort specified in the protocol to the Treaty hardly provide the kind of flexible framework needed for effective macroeconomic policy coordination. By limiting the flexibility of national fiscal policies, these limits may actually impede efforts of the participants in the European Monetary Union to implement appropriate adjustments in stabilization policies. Similarly, even if extensive borrowing by one or more EMU member states does affect the real interest rate or real exchange rate of the union as a whole, it is hard to see why, in the absence of other distortions, a purely pecuniary externality, i.e. one that affects only prices outside the initiating country, requires intervention at the level of the European Union.

The third argument is that monetary union requires restrictions on the fiscal autonomy of the member states to prevent the latter from over-borrowing, because excessive debt may lead to a bailout by the union and threaten the stability of the common currency. This bailout might take two forms: an *ex-post* bailout involving monetization of government debt, or an *ex-ante* bailout entailing policies designed to keep interest rates on government debt artificially low and thereby to keep debt from rising to unsustainable levels. Either policy would give rise to union-wide inflation and threaten the stability of the common currency. This is in contrast to the situation in which each state issues its own currency; in that case, each government can expect to act as its own lender of last resort and, therefore, to internalize the bailout risk.

Proponents of this view argue that US experience proves the necessity of fiscal restraints in a monetary union, since 49 of the 50 states operate under

fiscal restrictions of some sort. US experience supposedly shows that the need for fiscal restrictions is especially pressing in monetary unions with a fiscal structure, i.e. where there is significant decentralization of budgetary authority. The perceived implication is that, as the European Union moves towards monetary unification, strict observance of deficit and debt restrictions like those spelled out in the Maastricht Treaty will be necessary to guard the stability of the European currency.

In this paper we challenge that view. We show, first, that the fiscal restraints under which state governments operate in the United States were put in place for reasons unrelated to the existence of the US monetary union. They therefore convey no information about the connections between fiscal restrictions and monetary unification. Second, we show that the same is true for the other large, industrialized federal nation in which state governments were prominently fettered by fiscal restrictions until recently, namely Australia. Third, using a broader cross-section of countries we show that there is no association between monetary union among federal states and fiscal restraints on sub-central (state, provincial, or local) governments.

There is, however, an association between the incidence of fiscal restraints on sub-central governments and the share of the tax base under the control of sub-national authorities: fiscal restraints appear typically where sub-central governments finance only a small share of their expenditures from own taxes. The association of fiscal restraints with the distribution of the tax base makes intuitive sense. When a sub-national government retains significant autonomy over taxation, it can be asked to use tax policy to deal with the fiscal problems it creates for itself. When the tax base is controlled by the national government, however, sub-national jurisdictions with fiscal problems have only the options of defaulting or soliciting a bailout; raising own taxes is not an option. For most central governments the political costs of default are perceived as quite high; as a result, they will be unable to refuse the request for a bailout, and the stability of national monetary policy can be threatened. This creates the need for fiscal restraints on sub-national governments to minimize the incidence of such requests.

The implications for Europe are clear. Only if monetary union is accompanied by fiscal centralization, a scenario that is hardly plausible in our view, will there be a need for fiscal restrictions as a concomitant of EMU.

I. Introduction

A prominent feature of the Maastricht Treaty on European Union are the restrictions it places on national fiscal policies under the "Excessive Deficits Procedure". Three justifications have been offered for this procedure. First, it is argued, that there is a need for fiscal policy coordination across countries in a monetary union to insure desirable inflation, growth, and balance-of-payments outcomes. Second, there are worries that large deficits in some countries will disturb the overall savings-investment balance of the European Union, wreaking havoc with, inter alia, the level of real interest rates and the real exchange rate vis-a-vis the rest of the world. And third, there is a fear that unfettered national fiscal policies will be a source of inflationary pressures that the European Central Bank (ECB) will find difficult to resist.

The first two arguments find little support in the literature.[2] While there may be a strong case to be made for the international coordination of fiscal policies, deficit and debts limits of the sort specified in the protocol to the treaty hardly provide the kind of flexible framework needed for effective macroeconomic policy coordination. By limiting the flexibility of national fiscal policies, these limits may actually impede efforts of the participants in the European Monetary Union to implement appropriate adjustments in stabilization policies. Similarly, even if it is correct that extensive borrowing by one or more EMU member states will affect the real interest rate or real exchange rate of the union as a whole, it is hard to see

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[2] See for example Hughes - Hallett and Vines (1991), Goodheart and Smith (1993) and De Grauwe (1994).

why, in the absence of other distortions, a purely pecuniary externality, i.e., one that affects only prices outside the initiating country, requires intervention at the level of the European Union.[3]

The third argument is that monetary union requires restrictions on the fiscal autonomy of the member states to prevent the latter from over-borrowing, because excessive debt may lead to a bailout by the union and threaten the stability of the common currency. This bailout might take two forms: an ex post bailout involving monetization of government debt, or an ex ante bailout entailing policies designed to keep interest rates on government debt artificially low and thereby to keep debt from rising to unsustainable levels. Either policy would give rise to union-wide inflation and threaten the stability of the common currency. This is in contrast to the situation in which each state issues its own currency; in that case, each government can expect to act as its own lender of last resort and, therefore, to internalize the bailout risk.

Proponents of this view argue that U.S. experience proves the necessity of fiscal restraints in a monetary union, since 49 of the 50 states operate under fiscal restrictions of some sort. U.S. experience supposedly shows that the need for fiscal restrictions is especially pressing in monetary unions with a fiscal structure, i.e., where there is significant decentralization of budgetary authority. The perceived implication is that, as the European Union moves toward monetary unification, strict observance of deficit and debt restrictions

[3] This point is made powerfully by Buiter et al (1993).

like those spelled out in the Maastricht Treaty will be necessary to guard the stability of the European currency.[4]

In this paper we challenge that view. We show, first, that the fiscal restraints under which state governments operate in the United States were put in place for reasons unrelated to the existence of the U.S. monetary union. They therefore convey no information about the connections between fiscal restrictions and monetary unification. Second, we show that the same is true for the other large, industrialized federal nation in which state governments were prominently fettered by fiscal restrictions until recently, namely Australia. Third, using a broader cross section of countries, we show, that there is no association between monetary union among federal states and fiscal restraints on subcentral (state, provincial, or local) governments.

There is, however, an association between the incidence of fiscal restraints on subcentral governments and the share of the tax base under the control of sub-national authorities: fiscal restraints appear typically where subcentral governments finance only a small share of their expenditures from own taxes.[5] The association of fiscal restraints with the distribution of the tax base makes intuitive sense. When a sub-national government retains significant autonomy over taxation, it can be asked to use tax policy to deal with the fiscal problems it creates for

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[4] In this paper we do not address the issue of the enforceability and potential for evading debt and deficit restrictions like those adopted by U.S. states. On this question see von Hagen (1991) and Eichengreen (1993).

[5] While there is a negative association, as one would expect, between federal structure and the share of the tax base under the control of the national authorities, that association is less than perfect, leading to different correlations with the cross-country incidence of fiscal restraints.

itself. However, when the tax base is controlled by the national government, sub-national jurisdictions with fiscal problems have only the options of defaulting or soliciting a bailout; raising own taxes is not an option. For most central governments, the political costs of default are perceived as quite high; as a result, they will be unable to refuse the request for a bailout, and the stability of national monetary policy can be threatened. This creates the need for fiscal restraints on sub-national governments to minimize the incidence of such requests.

The implications for the Europe are clear. Only if one imagines that monetary union will be accompanied by fiscal centralization, a scenario that is hardly plausible in our view, is there a need for fiscal restrictions as a concomitant of EMU.

II. The Origin of Borrowing Restrictions in the United States

In the United States, constitutional limits on borrowing by state governments can be traced back to the 1840s.[6] They were adopted in the wake of widespread defaults on state bonds following the borrowing wave of the 1830s. The initiating factor was the success of the New York State in financing the Erie Canal and capturing a disproportionate share of the nation's east-west trade. Other states sought to capture their share of the traffic by underwriting the construction of their own east-west canals and promoting other infrastructure projects. The constitution of Michigan, which entered the Union in 1837, even required the

[6] Two good sources of information on this history are Ratchford (1941) and Heins (1963).

legislature to promote internal infrastructure improvements.[7] It quickly authorized the issuance of large amounts of debt for this purpose, much of which was sold to European investors. Repudiation followed in the 1840s. In the cases of Arkansas, Florida and Mississippi, bonds were issued to capitalize banks which made loans for capital improvements. Pennsylvania, Maryland, Illinois, Indiana and Louisiana undertook involuntary adjustments of their bonded debts for similar reasons.

Prior to 1840, no state constitution limited the debts which the government might incur, but over the following fifteen years 19 state constitutions were so amended. Ratchford (1941) attributes this trend to public dissatisfaction with government "waste, extravagance and fraud." Still (1936) describes it as part of a general movement by voters to limit the discretion of state legislators. Several southern states which fell prey to fiscal excesses during the Reconstruction period, when officials of Carpet Bag Governments (headed by politicians imported from the North) diverted public resources to their private ends, amended their constitutions to include fiscal restrictions, presumably to prevent a recurrence of the problem. With this experience in mind, new states admitted to the union following the Civil War commonly included debt limits in their constitutions.

Significantly, there was no prospect of a federal government bailout of defaulting states in the 1840s, and no question of whether the monetary standard might be altered to provide the

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[7] Curtis (1844) refers to a "vehement desire [on the part of state legislatures] to construct great public works, chiefly such as to facilitate and promote internal communication."

resources to buy up defaulted bonds. The unsustainable expansion of financial activity that culminated in the panic of 1837 and the temporary suspension of specie payments that followed may have been due partly to the rapid rise in state borrowing in the preceding period, but despite pressure from foreign investors for it to do so the federal government did not assume state debts as it had in 1790 and 1802.[8] The subsequent period was one of persistently falling, not rising, prices. The same can be said of the 1870s, when the South experienced financial difficulties; these did not deter the United States from returning to the gold standard in 1879. The constitutional restrictions of the period were not motivated by any interstate externalities caused by fiscal profligacy. In particular, the threat to monetary stability currently on the minds of the framers of the Maastricht Treaty did not provide the motivation for the adoption of fiscal restrictions in the United States. Rather, voters reacted against principal-agent problems internal to their states that prevented them from reining in excessive spending and the diversion of resources by state legislators.[9] Constitutional debt limitations were part of a general movement that entailed also restrictions on the length of legislative sessions and the salaries of state

[8] The debate over federal assumption of state debts, with considerable analysis of why it was never a serious possibility, is described by McGrane (1935).

[9] Revealingly, Still (1936, p.202) speaks explicitly in principal-agent terms when contrasting the skeptical attitude of voters in old states with the naivete of those in newly established ones. "Thus did the pattern of confidence in the legislature, as agents of and synonymous with the people, prevail in new states at a moment when their neighbors had, through experience with state governments, come to quite a different philosophy as to the ability of the representative to serve the interests at least of those groups now most dominant in the revision conventions."

legislators, and can only be understood in these terms.

III. Borrowing Restrictions in Australia

The other major federation with borrowing restrictions in place, Australia, similarly acquired them for reasons unrelated to the maintenance of a monetary union among its constituent states.[10] Borrowing by state governments has been controlled by the Australian Loan Council on an informal basis starting in 1923 and by statute starting in 1928. The original purpose of the Loan Council was to encourage the coordination of borrowing to prevent the states from competing against each other and driving up the interest rates they faced in the London capital market.

Prior to 1914, the Commonwealth had not been a borrower of any significance. Borrowing by the states was coordinated by the firm of R. Nivison & Co., which served as them underwriter and "ensured that each state waited its turn, and floated at a time and price which would not have an adverse effect on other borrowers."[11] The wartime scramble for funds caused this arrangement to break down. Whether the subsequent rise in interest rates was due to the unsettled postwar economic conditions or to competitive borrowing by the states, May of 1923 saw the establishment of a Loan Council without formal executive powers. These arrangements were formalized in 1927-28 when, in a general political climate of concern about the size of the public debt, the states and Commonwealth signed and ratified the Financial Agreement Act (James, 1993). The Council, which

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[10] For details on this history, see ACIR (1981) and James (1993).

[11] Schedvin (1970), p.91.

consisted of the Prime Minister and representatives of the six state governments, had the power to approve or disapprove of borrowing by the states and the Commonwealth. Under the terms of the Agreement, the Commonwealth agreed to issue Commonwealth securities on behalf of the states and to transfer proceeds to them.

In addition to organizing the timing of bond flotations, the Loan Council quickly assumed a role in coordinating fiscal policies under the leadership of the central government. Schedvin (1970) refers to development competition in which each state engaged in excessive borrowing and development spending but could reduce those expenditures only if others did likewise. Once the Financial Agreement became operative in 1929, the Council could impose a cooperative agreement. This it did with growing regularity.[12]

Thus, the Australian Loan Council was put in place to optimize the timing of bond flotations by the states and the Commonwealth. It subsequently acquired the power to limit development competition. It is hard to sustain the case that the Loan Council was perceived as a bulwark against default and the danger that the Commonwealth Bank, Australia's central bank, might have to monetize state debts. In 1923, when the informal agreement took place, Australia was poised to rejoin the gold standard. In 1928, when the Financial Agreement was ratified, the gold standard was again operative. Australia had successfully

[12] In 1936 borrowings by semi-governmental and local authorities were brought under Loan Council supervision under the terms of the so-called "Gentlemen's Agreement," which was replaced in 1984-85 by the Global Borrowing Arrangements and in 1993-94 by a system of Loan Council Allocations.

operated a gold-exchange standard for many decades prior to World War I, and despite extensive external borrowing there had never been a serious danger that default would force the country off the gold standard. It seems clear that the Loan Council was adopted for other reasons.

Things might have been different had Australian officials anticipated the severity of the Great Depression. The post-1929 slump most severely impacted countries that exported primary products, including Australia. Where labor was strongest, as in New South Wales, there was pressure to shift the adjustment burden onto foreign creditors by repudiating the war debts and suspending interest payments on other external obligations.[13] In the summer of 1931, the premier of New South Wales, J.T. Lang, suspended service on the state's debt. Feeling that the credit of the Commonwealth was jeopardized, the Scullin Government immediately paid the liability on behalf of the state and then used its leverage to negotiate policy adjustments by the state government. In January of 1932, Lang's government defaulted again; this time the Commonwealth waited two weeks before paying the outstanding interest.

Meanwhile, the Commonwealth Bank was pressed to extend loans to the states to cover their budget deficits. These loans, which took the form of treasury bills, were renewed until 1936, when they were converted to debentures. Thus, political pressure related to fiscal problems forced a nascent central bank committed to "sound monetary policies" to deviate from its

[13] New South Wales had previously withdrawn from the Loan Council from July 1925 to December 1927, during the Council's voluntary phase.

preferences.

Admittedly, there are important differences from the problem preoccupying the framers of the Maastricht Treaty. The crisis of the 1930s was a deflation, not inflation. And loans by the Commonwealth Bank were extended to finance ongoing deficits rather than to provide a debt bailout (although one can perhaps argue that other states required the assistance of the Commonwealth Bank in order to support the cost of assuming New South Wales' obligations). Nonetheless, this episode illustrates the connections between uncoordinated borrowing, default and monetization.

Beginning in the 1950s and with the ascent of Keynesian ideas of fiscal stabilization, the Loan Council increasingly became a tool of macroeconomic management controlled by the Commonwealth government. In exchange for effectively assuming control over state borrowing, the Commonwealth agreed to underwrite state government loans (James, 1993). But over time the states sought ways to circumvent the borrowing restrictions imposed by the Loan Council. Initially, the Commonwealth responded by expanding its financial assistance to the states. By the early 1980s, however, it became clear that a Loan Council dominated by the Commonwealth was not sustainable.

The 1990s have seen dramatic changes in the Loan Council. These were triggered by the 'Victorian Loan Affair' of 1991/92 (James, 1993).[14] With the Financial Agreement Act of 1994, the

[14] The Loan Council had authorized Victoria to borrow $A 1.4 billion for 1991-92 which it did. During the same period, however, the Victorian government floated another $A 1.3 billion short term debt (not covered by the Loan Council allocation) which it converted into medium term debt, thus breaching its borrowing limit. The federal treasury, although it was notified

authority to borrow was returned to the state governments, rendering Loan Council decisions no longer binding. The Commonwealth for its part is no longer required to borrow on behalf of the states. The states are still committed to share their borrowing decisions with the Loan Council, but the latter only serves as an instrument for coordinating individual floatations (Intergovernmental News, 1994). In this sense, the Loan Council has returned to its original purpose.

Thus, Australia provides another example of a federation with borrowing restrictions that were adopted for reasons unrelated to monetary union. Furthermore, the Australian Loan Council shows that borrowing restrictions do not necessarily prevent pressure on the central bank to monetize state deficits, as in the 1930s, nor state financial calamities, as in the 1990s.

IV. The Incidence of Borrowing Restrictions Across Countries

Borrowing restrictions imposed on subcentral governments are neither common nor limited to federal states. Table 1 provides information on their incidence in nine federal and 16 unitary states. Federal states are defined as those with a layer of state governments between central and local administrations. The sample of countries was guided entirely by data-availability.

Table 1 reports the incidence of borrowing restrictions. For federal states, this means restrictions on state governments, while for unitary states, the restrictions are imposed on local

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by the action, held back its reaction in order not to embarrass the Victorian government during its election campaign. (James, 1993)

governments. We distinguish central government approval for borrowing, quantitative constraints on subcentral government deficits and/or debt, and prohibitions of all independent borrowing by subcentral governments.

An additional constraint in practice is the so-called "golden rule" of public borrowing that limits the annual deficit to the government's capital spending. We treat the "golden rule" differently from the other constraints, because it does not really restrict borrowing. The deficit can be arbitrarily high as long as the government undertakes capital expenditures of the same size. In addition, the definition of capital expenditure is blurred, since it is difficult to decide in practice what is public investment and what is not.[15] Finally, under a "weak golden rule", e.g., in Germany, current and capital expenditures are both contained in a unified budget and the golden rule only applies to the budget as a whole. In contrast, under a "strict golden rule", e.g. in Luxembourg, the capital budget is separated from the current budget, and the constraint forces the government to balance the current budget. The strict version thus has stronger implications for budget discipline.

Only four of the nine federations in Table 1, the US, Australia, Argentina, and India, have borrowing restrictions on subcentral governments in place. In India, state governments are free to borrow so long as they have no financial liabilities to

[15] One difficulty is that some spending for purposes that are clearly investment from an economic point of view (e.g. teachers' salaries) are classified as government consumption in budgetary terms. In addition, budgetary classifications of capital spending do not necessarily make sense, either. For example, in German public budgets every non-wage expenditure in excess of DM 1000 is classified as investment.

the central government. Since this is always the case, however, authorization from the central government is required, and the central government imposes borrowing quotas on each state at the beginning of each year. In Argentina, the borrowing restrictions flow from the constitutional requirement that the federal government must finance the deficits of the local governments (Macon, 1983). Austria, Brazil and Canada impose no restrictions. Switzerland and Germany only have a golden rule. In sum, only four out of nine federations have fiscal restraints. At least two of these, as argued before, have fiscal restraints for reasons unrelated to monetary union. If one accepts federation as the model of monetary union, this suggests no association with fiscal restraints.

The remainder of the table reports the incidence of fiscal restraints in our sample of unitary states. Belgium, Greece, Ireland, Italy, Japan, the Netherlands, Norway, and the UK all limit borrowing by subcentral governments strictly. Of the remaining states, Denmark, France, Indonesia, Luxembourg and Sweden impose a strict golden rule on subcentral governments. Only in Finland and Portugal are subcentral governments free of all fiscal restraints.

We can group our sample in a 2-by-2 table according to the existence of fiscal restraints and of a federal structure. This allows us to calculate a chi-square test for the association between fiscal constraints and federal structures. The results are as follows:

	federal states	unitary states	sum
with restrictions	4 (6)	9 (14)	13
without restrictions	5 (3)	7 (2)	12
sum	9	16	25

Not counting the "golden rule" as a fiscal restraint results in a chi-square of 0.3; counting the "golden rule" - the number of countries this places in the different categories is indicated in parentheses in the table - yields a statistic of 1.3. Neither is significant at standard significance levels. Even allowing for some sample selection bias in the countries we consider, it is hard to argue that federal states and, therefore, monetary union, have a greater tendency to restrain subcentral government borrowing than unitary states.

V. Ownership of the Tax Base in Federal and Unitary States

An important characteristic of the vertical organization of a country's fiscal system is the ownership of its tax base. Two ideal models can be imagined. In one, a country's entire tax base is owned by the central government, which pays grants to subcentral governments to enable them to carry out their functions. In the other ideal model, the subcentral governments own a sufficiently large share of the tax base to finance their own expenditures, leaving them financially independent of the central government. Actual fiscal systems today can be described as linear combinations of these extreme cases.[16]

We characterize a country's fiscal system in terms of the

[16] The German Reich from 1871 to 1918 was an example of the third model, where the central government is largely deprived from own tax resources and is, therefore, financially dependent on the subcentral governments.

share of subcentral government spending financed by revenues from own tax resources.[17] Table 2 provides these data for our sample of countries in 1987. The share of own-taxes varies from six percent in the Netherlands to 67 percent in Germany. Argentina and Australia have the lowest shares of own tax revenues among the federal states, Germany and Canada have the highest. Of unitary states, the Netherlands and Ireland have the lowest shares, while France and Denmark have the highest. For the countries with a federal structure, the average ratio of revenues from own taxes to spending is 50.3 percent, compared to 32.5 percent for the states with a unitary structure. This difference is statistically significant at the one-percent level.[18] Note also that the smallest share among the federal states is above the average among the unitary states. Thus, federal states tend to have more equal vertical fiscal balance than unitary states.

Another criterion looks at the share of grants from the central government to subcentral governments relative to the sum of federal grants and revenues from own taxes in the budgets of the subcentral governments. The second column of the table provides this information. Again, federal states tend to be less dependent on central government financial assistance. The difference between the averages - 37.2 percent for federal states and 61.7 percent for unitary states - is again statistically

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[17] For a discussion of the measurement of the fiscal capacity of subcentral government see Levin (1991). While one might include own revenues from non-tax resources, too, such data do not exist for all countries in our sample.

[18] The t-test for equal means is t = 2.81.

significant at the one-percent level.[19] In sum, there is a noticeable association between federalism and ownership of the tax base.

The distribution of the tax base has important implications for the financial relations between the central and the subcentral governments. Consider a country where the tax base is largely owned by the central government. A subcentral government that runs a large debt is an obvious financial risk for the central government. Since its own resources are scarce, the subcentral government is likely to face bankruptcy due to even relatively small, adverse shock to the local economy. With little room for adjustment at the subcentral level, the central government can only let the troubled government go bankrupt or bail it out. As bankruptcy is not an attractive option, the central government will tend to opt for assistance. Anticipating this, the subcentral government has an incentive to engage in riskier financial policies than it would if no bailout was anticipated. In contrast, where subcentral governments have significant tax resources of their own, the central government can ask them to use these to service and restructure their debts.

Thus, our two models of vertical fiscal structure differ in the incentives they create for subcentral government borrowing. The stronger the dependence of subcentral governments on central government resources, the greater the incentive to engage in frivolous borrowing. One should expect central governments to use fiscal restraints to moderate this moral hazard.

We can test this hypothesis by considering the association

[19] The t-test for the difference in means is $t = 3.4$.

between the incidence of fiscal restraints and our measures of financial independence from the central government. Consider a 2-by-2 categorization of countries according to the presence or absence of fiscal restraints on the one hand, and whether or not our measure of financial independence exceeds or falls below the sample mean for each group on the other:

Indicator of vertical fiscal balance: revenues from own taxes	Federal States		
	with fiscal restrictions	without fiscal restrictions	sum
above average	1	5	6
below average	3	0	3
sum	4	5	9
	Unitary States		
above average	3	6	9
below average	6	1	7
sum	9	7	16

Taking the ratios of own tax resources to spending, first, the resulting chi-square statistics are 5.6 for the group of federal states and 4.4 for the group of unitary states. Both are significant at the five-percent level. Combining the two samples while allowing for the difference in means yields a statistic of 9.2, which is statistically significant at the one percent level.

Taking the ratio of grants to the sum of grants and tax revenues, the chi-square statistics are 2.7 for the sample of federal states and 2.3 for the unitary states. Only the former is statistically significant at the 10-percent level. For the combined sample, the test statistics is 4.9, which is significant

at the five-percent level.[20]

Indicator of vertical fiscal balance: grants	Federal States		
	with fiscal restrictions	without fiscal restrictions	sum
above average	3	1	4
below average	1	4	5
sum	4	5	9
	Unitary States		
above average	6	3	9
below average	2	5	7
sum	8	8	16

In sum, there does appear to be a significant association between the financial dependence from the central government and the incidence of fiscal restraints.

VI. Implications for Europe Today

A prominent feature of the Maastricht Treaty on European Union is the independence of the European Central Bank (ECB) coupled with its mandate to safeguard the stability of the price level. In conjunction with Art. 21 of the Protocol on the European System of Central Banks in the Treaty, which states that the ECB cannot acquire any public debt directly from the issuer, this provides considerable assurance that the ECB will not monetize public debts. This presumption is strengthened by Art. 104b, which holds that neither the Union nor any member state shall be responsible for the debt of other EU members.

The scenario the framers of the treaty had in mind

[20] Looking at each group separately yields statistics of 1.74 and 1.74 for the federal states, which are not significant, and 6.3 and 4.0 for the unitary states, which are both significant at the 5-percent level.

presumably runs as follows.[21] Imagine that a government of a member state -- call it Italy for illustrative purposes -- experiences a revenue shortfall. It finds it difficult to service its debt. Bondholders concerned about the interruption of debt service begin to sell their bonds, depressing their price and forcing the Italian government to raise the interest rate it offers when it attempts to roll over maturing issues. The rise in interest rates further widens the gap between government revenues and expenditures, exacerbating the fiscal problem. Problems in the bond market threaten to spill over to other financial markets, because for example higher interest rates depress equity prices. In the worst-case scenario, the collapse of asset prices and the impact of higher interest rates on corporate profitability and the performance of outstanding loans can threaten the stability of the banking system.[22]

Faced with a crisis of this sort, a government's first recourse may be to the central bank's printing press. The central bank can use its power to create monetary liabilities to purchase however much public debt is sold by skittish bondholders. This prevents bond prices from falling and contains the scope for contagion to equity markets and the banking system. McKinnon (1995) argues that the capacity of the central bank to backstop the market in government debt in this way is critical to the stability of the financial sector in high-debt economies. The rise in interest rates may not be entirely obviated, of

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[21] See for example Emerson (1990).

[22] The most influential model of debt runs is Calvo (1988). For models applied to the European context, see Alesina, Prati and Tabellini (1990) and Giavazzi and Pagano (1990).

course, for while the risk of default has declined, the risk of inflation has not: the future price level presumably rises in proportion with the increase in the money supply.

The Maastricht Treaty makes it unlikely that the ECB will engage in behavior of this sort. By doing so, it strengthens the incentive for the member states to anticipate and head off problems that threaten to give rise to debt runs.

None of this explains why the treaty also contains an Excessive Deficits Procedure which allows EU authorities to require fiscal retrenchment on the part of member states with excessive debts or deficits. Article 104c of the treaty empowers to Commission to monitor debts and deficits in member states and instructs it to pay particular attention to their relationship to their reference values (specified in a protocol to the treaty as 60 and 3 per cent of GDP, respectively). It is to do so in both Stage II and Stage III of the Maastricht process. If the Commission concludes that a government is running or may run an excessive deficit, it registers its opinion with the Council. If the Council agrees, it will recommend steps to eliminate the problem. In Stage III, the Council may require the member state in question to publish additional information before issuing bonds and securities, invite the European Investment Bank to "reconsider" its lending policy toward the country, require that country to make non-interest-bearing deposits with the Community, and impose fines.

These procedures plausibly intended to prevent EU member states from entering monetary union with excessive debts (or the prospect of excessive debts) that heighten their vulnerability

to a debt run and their need for a central bank bailout, and to prevent members of the monetary union from accumulating such debts following their accession. But excessive debts are only a problem for the monetary union if there is reason to expect that the difficulties they create will be met with a ECB bailout. By inference, the Excessive Deficit Procedure reflects doubts on the part of the framers of the Maastricht Treaty that the no-bailout provision is credible.

There may be reasons to entertain such doubts. A general principle of the European Union, stated in the preamble and in Art. A of the Treaty, is that members pursue policies of solidarity and coherence leading to the convergence of their economies. Obviously, leaving a member state to suffer a fiscal crisis on its own may be regarded as a breach of these principles; invoking Union solidarity may, therefore, be a way to solicit financial assistance including monetization of bad debts. (In a sense, such concerns are unrelated to the issue of EMU; solidarity, coherence and convergence are principles of the European Union regardless of whether or not the union adopts a common currency.) Given the knowledge that such pressure will be applied and that the ECB's "commitment technology" is less than perfectly effective, member states still face a moral hazard problem. Hence the addition of the Excessive Deficits Procedure to prevent them from indulging in hazardous behavior.

But in analyzing the pressure for the monetary authorities to respond to a debt run, this discussion ignores the extent to which a state experiencing a crisis has other instruments at its command. Most obviously, the authorities can employ fiscal

policy. They can promise to raise taxes or cut public spending to make available the resources needed to service and ultimately retire their debts.

Changes in fiscal policy take time to deliver revenues, of course. Even if the government raises taxes now, it may take a year before the impact for revenues becomes apparent. To the extent that income taxpayers pay estimated taxes quarterly or the authorities raise sales taxes and VAT, results may materialize faster, but it is still the case that time will have to pass before a significant increase in net revenues eventuates. Of course, a government which takes fiscal steps now that promise to raise revenues later should be able to borrow against its expected future income. Fiscal actions, in other words, should still have the capacity to address fiscal problems.

We see an illustration of this in the recent fiscal difficulties of Orange County, California. Following the ill-timed decision of the county treasurer to gamble on a continued decline in interest rates, in late 1994 the county declared that it had lost a significant share of the tax revenues that provided the basis for its investment portfolio. On December 6th it was forced to file for bankruptcy under Chapter 9 (the public sector equivalent of Chapter 11) of the Bankruptcy Code when investment banks refused to roll over its maturing debt, seized $2 billion of securities they had been holding as collateral, and dumped them on the market. Significantly, Orange County also increased fees for municipal services and proposed a doubling of the county

sales tax from 1/2 to 1 per cent.[23] It cut public spending on refuse services, road construction and public schooling and announced the layoff of 1,000 public employees. Because Orange County possessed slack on the expenditure side and, critically for our purposes, it controlled a sufficient part of its tax base, the State of California and the federal government did not feel compelled to bail it out.[24] If the county chooses to default, that will be its own decision, taken on political grounds and not a result of moral hazard.

But consider the situation where Orange County did not have the capacity to undertake a fiscal correction on its own. It would have had no means of maintaining service on its debts. A run on its debt could have had serious repercussions on other financial markets. The pressure for a state or federal bailout would have been intense.

The correlation between the incidence of fiscal constraints and fiscal dependence on the central government documented above points in the same direction. The more dependent subcentral governments are on financing by the central government, the stronger is the incentive for excessive borrowing in anticipation

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[23] The tax increase was put on the ballot as a referendum to be voted on in June of 1995.

[24] In fact, the California Supreme Court ruled in an earlier case that the state government is obliged to keep the public schools open even when a school district is unable to do so. It did so over the objections of Governor Pete Wilson, who fought the extension of support for a previous school district that went bust. Another difference between the situations in Orange Country and post-EMU Europe is that California is willing to tolerate much higher levels of migration in response to asymmetric shocks. The shock to Orange County is being met in part by less migration into the country and more movement from there to other parts of California and neighboring states. This alternative to fiscal transfers or a bailout is not something that Europe would happily contemplate.

of a bailout by the central government should a financial crisis arise. Thus, the credibility of the no-bailout proposition depends directly on the fiscal structure of the government.

The implications for the European Union are direct: So long as national governments retain ownership of their tax base, they can resort to increased taxation to deal with fiscal crises and will be expected to do so. The existence of these instruments for coping with crises should help the European Commission and the ECB to resist pressure to intervene. The fact that the cost of coping with the crisis will be borne by the member state in question, in the form of higher taxes, will tend to minimize moral hazard. Hence, there is no obvious need for fiscal restraints such as the Excessive Deficits Procedure. Should the member countries one day decide to vest the Union with the ownership of the common tax base, fiscal restraints will be a way to reduce consequent moral hazard problems. But not even steadfast proponents of political integration see this as a realistic possibility for the foreseeable future. In any case, this issue is logically independent of EMU, since fiscal centralization may or may not occur in a monetary union.

VII. Caveats

The implication of this reasoning is that there is only a weak case for buttressing the no-bailout provision of the Maastricht Treaty with the Excessive Deficit Procedure. In this section we discuss some caveats that one might wish to consider before concluding that the latter are unnecessary and therefore superfluous.

First, the fact that a small share of the total taxes raised in the EU will be controlled by the EU itself means that the ECB will be in a relatively strong position to resist pressure for a bailout, but not that no pressure will exist. It is still possible to argue that the no-bailout rule should be reinforced by debt and deficit restrictions. But here the costs of tying the hands of national fiscal authorities should be balanced against the benefits. The costs, which emanate from lack of fiscal flexibility, may be particularly high in a situation where national authorities have already forsaken their monetary independence. And our analysis suggests that the benefits are small, since the no-bailout provision can credibly rest of the EU's decentralized vertical fiscal structure.

Second, the Excessive Deficit Procedure may be desirable on other grounds, e.g. for fighting inflation. If the members of the ECB's board make policy according to the strictures of the theory of optimal taxation, balancing the marginal deadweight loss associated with different taxes including the inflation tax, the representatives of high-debt countries, which will levy high income and profit taxes, will also prefer a relatively high inflation tax. Using the Procedure in Stage II of EMU to keep such countries out of the monetary union and in Stage III to prevent the accumulation of high debts may then be necessary to guard against inflationary monetary policies. This assumes, of course, that the governors of the ECB will be guided by the dictates of the theory of optimal taxation rather than their mandate to assure price stability.

Third, it is sometimes argued that the incentive to avoid

debt problems will be weakened when EU countries no longer have their own exchange rates and that this provides a rationale for the extra protection of the Excessive Deficit Procedure. In open economies, debt problems provoke exchange rate crises -- indeed exchange rate crises generally precede debt default, forcing the government to focus its attention on the need for fiscal consolidation. An EU member state that lacks its own exchange rate is therefore relieved of the need to take crisis measures in response to crisis conditions. In our view, this argument is misguided. In jurisdictions like Orange County that lack an exchange rate, the symptoms of debt crisis simply show up in other variables, such as bond prices and the availability of credit.

Finally, it is argued that the Excessive Deficit Procedure is needed to coordinate borrowing by member states in order to prevent one or more profligate borrowers from driving up the interest rates facing others. While there is precedent for adopting fiscal restrictions on these grounds (recall the case of Australia in section III above), there are a number of flaws in the general argument. For one, it ignores the distinction between pecuniary externalities, about which policymakers need not worry, and nonpecuniary ones, about which they should. In their basic form, interest-rate spillovers fall under the first category. For another, it neglects the fact that the Excessive Deficit Procedure, which is implemented annually, is a rather blunt instrument for bringing about the appropriate harmonization of national fiscal policies. And it ignores that this argument, insofar as it has validity, is largely independent of monetary

union.

VIII. Conclusion

In this paper we have considered the case for fiscal restrictions like the Excessive Deficits Procedure of the Maastricht Treaty. The case for such restrictions is to insulate the European Central Bank from pressure to come to the aid of member states experiencing a debt run. Despite the existence of this no-bailout provision, the pressure for ECB assistance is likely to be intense. Hence the argument for surveillance and sanctions against member states that pursue policies which heighten their vulnerability to a run.

But the pressure for a bailout will not be equally intense in all times and places. It will be most powerful where the affected jurisdiction does not possess instruments of its own with which to address the crisis. And the risk will be greatest where, because the jurisdiction does not possess those instruments, it can shift the costs of the bailout onto its fiscal and monetary partners. This is one reason why one sees a disproportionate incidence of fiscal restrictions in countries where state and local governments retain control of only a relatively small share of the tax base.

In Europe, the EU has only limited taxation and expenditure authority. The vast majority of taxation remains under the control of member states. This is certain to remain so for the foreseeable future. All this suggests that the rationale for the Excessive Deficits Procedure is weak.

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Table 1. Borrowing Restrictions Across Countries

Country	sub-central government borrowing restriction					
	none	golden rule		central government approval	quanti-tative con-straints	no independent borrowing
		weak	strict			
Argentina				*		*
Australia				*		
Austria	*					
Brazil	*					
Canada	*					
Germany		*				
India				*		*
Switzerla			*			
US					*	
Belgium				*	weak	(*before 1988)
Denmark			*			
Finland	*					
France			*			
Greece				*		
Indonesia			*			
Ireland					strict	
Italy				*	strict	*
Japan				*	*	
Korea	*					
Luxembg.			*			
N'rlands			*	*		
Norway				*		
Portugal	*					
Spain	*					
Sweden			*			
UK					strict	

Note: a Golden Rule is a requirement that borrowing cannot exceed investment expenditure during a given year. A "strict" golden rule is where government spending is separated into a capital budget and current budget and funds are not fungible between them. A "weak" golden rule exists where the budget does not separate capital and current expenditure formally, so that borrowed funds can be used to cover current expenditures.

Table 2. "Ownership" of the Tax Base

Country	indicator of fiscal balance (percent)	
	own taxes/spending	grants/(own taxes + grants)
Argentina	25.2	59.5
Australia	28.4	64.4
Austria	58.6	37.8
Brazil	54.9	24.3
Canada	64.4	22.4
Germany	66.9	17.9
India	39.5	49.4
Switzerland	55.5	31.4
US	58.9	27.3
Belgium	34.8	61.9
Denmark	47.1	46.2
Finland	43.9	44.0
France	43.0	44.4
Greece	17.5	82.5
Indonesia	18.7	81.0
Ireland	5.7	92.6
Italy	8.8	90.1
Japan	45.4	48.3
Luxembourg	36.7	56.1
Netherlands	5.8	84.0
Norway	47.3	43.2
Portugal	28.6	66.4
Spain	43.3	78.9
Sweden	61.2	26.3
UK	31.8	59.0

Source: Levin (1991) and IMF, Yearbook of Government Finance Statistics (1994).

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